Claims

What is claimed is:

1. A method for promoting wound healing comprising the steps of:

providing isolate tropoelastin and isolated lysyl oxidase separated from each other; and

applying both said tropoelastin and said lysyl oxidase to wound simultaneously or sequentially.

2. The method of claim 1 wherein tropoelastin is wild type tropoelastin matched to species of recipient.

3. The method of claim 1 wherein tropoelastin is modified tropoelastin.

4. The method of claim 3 wherein amino acid sequence of tropoelastin has been changed relative to amino acid sequence of wild type tropoelastin.

5. The method of claim 1 wherein tropoelastin comprises a heterogeneous mixture of tropoelastin isoforms.

6. The method of claim 1 wherein lysyl oxidase comprises an enzymatically active portion of lysyl oxidase.

7. The method of claim 1 wherein lysyl oxidase is modified lysyl oxidase relative to wild type lysyl oxidase.

8. The method of claim 7 wherein the amino acid sequence of lysyl oxidase has been changed relative to wild type lysyl oxidase.

4 ~~9~~. The method of claim 1 wherein the method comprises the additional step of:

repeatedly applying the tropoelastin and lysyl oxidase to the wound during the healing process.

5 ~~10~~. The method of claim 1 wherein the method comprises the additional step of:

approximating separated tissue of the wound using sutures, staples, adhesive strips, or tissue glue.

6 ~~11~~. The method of claim 1 wherein the step of applying comprises applying the tropoelastin and lysyl oxidase with a sterile syringe.

12. The method of claims 1 wherein the tropoelastin or lysyl oxidase has been mixed with other materials selected from the group consisting of polymers, emulsifiers, oils, perfumes, proteins, polysaccharides, nucleic acids, microfibrils, antimicrobial agents, adhesive agents, and protease inhibitors.

13. A kit comprising tropoelastin and lysyl oxidase in separate compartments.

14. The kit of claim 13 wherein the tropoelastin is wild type tropoelastin.

15. The kit of claim 13 wherein the tropoelastin is modified tropoelastin.

16. The kit of claim 15 wherein the amino acid sequence of tropoelastin has been changed relative to wild type sequence.

17. The kit of claim 13 wherein the lysyl oxidase is wild type lysyl oxidase.

18. The kit of claim 13 wherein the lysyl oxidase is modified lysyl oxidase.

19. The kit of claim 18 wherein the amino acid sequence of lysyl oxidase has been changed relative to wild type sequence.

20. A kit comprising tropoelastin and lysyl oxidase in the same compartment, wherein the lysyl oxidase is in an inactive form which can be later converted to an active form.

21. A kit comprising tropoelastin and lysyl oxidase in the same compartment, wherein either the tropoelastin or lysyl oxidase is encapsulated by a polymer.

22. The kit of claim 21 wherein the polymer is biodegradable.

23. The method of claim 1 wherein the wound involves the skin.

24. The method of claim 1 wherein the wound involves an artery.

25. The method of claim 1 wherein the wound involves lung tissue.